



OW Management Report for Hurricane Harvey and Hurricane Irma – September 12, 2017 EOC Water Desk

Hurricane Harvey Update (note: Hurricane Irma report starts on page 5)

Background:

Response and recovery efforts continue throughout the Gulf Coast of TX and LA. Rivers continue to recede in the region, however major record levels will persist through this week for several areas, including Houston and Beaumont.

Federal Activities:

FEMA has activated the NRCC at Level 1 with all Emergency Support Functions (ESFs) and deployed national and several regional Incident Management Assistance Teams (IMATs). FEMA's Region 6 RRCC is also at Level 1.

State Activities:

The TX SEOC remains at full activation, while the LA SEOC remains at Level III (24 hours).

EPA HQ:

Water Desk Staffing for the coming week is as follows:

Monday 9/11: Kevin Tingley and David Goldbloom-Helzner

Tuesday 9/12: David Goldbloom-Helzner

Wednesday 9/13: Jeff Fencil

Thursday 9/14: David Goldbloom-Helzner

Friday 9/15: Kevin Tingley

EPA Activities: Region 6:

Recovery Activities: The Governor of Texas sent a letter to Administrator Pruitt on September 8 about the use of State Revolving Funds (SRF) to fund immediate recovery and resilience efforts for the water, wastewater and stormwater infrastructure in Texas. The National Disaster Recover Framework (NDRF) has been activated. Also, Region 6 staff have been deployed to the Joint Field Office in Austin to address recovery of water and wastewater infrastructure and other recovery support functions.

As of September 11, EPA completed review of the Texas Water Development Board's requests for flexibility in using State Revolving Loan Funds to address damage by the hurricane and will respond to the state of Texas today. EPA believes that flexibilities can implemented either through existing authority or by working together to process expedited waivers to current limitations. Where EPA Region 6 concurrence or approvals are necessary, EPA will plan to complete action on these requests by the next business day.



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Outreach: 20 Community Liaisons have been deployed and will be directed to strategic locations within impacted counties. The Community Liaisons will distribute information to assist citizens with common environmental and health issues they might face following a flood.

Private Domestic Drinking Water Wells Sampling Under ESF-8: EPA continues to make contact with the remaining 18 counties regarding private water well testing and our research indicates that private well testing is available across the state for a nominal fee. EPA has confirmed 21 of the 39 disaster declaration counties are currently providing private well testing for area residents. The Texas Department of State Health Services also offers bacteria testing for \$28 through the state lab. The TCEQ website provides public information and a list of NELAP Accredited Labs for well owners to analyze water samples for a fee.

Drinking Water / Wastewater Assessments

EPA is providing support to TCEQ for drinking water and wastewater system assessments. Ten EPA personnel are conducting drinking water assessments in the Houston Branch, while an additional five personnel are conducting wastewater assessments.

The 3 tables below show the status of DW systems and the DW/WW assessments as of September 11, 2017.

Drinking Water and Waste Water Assessments (September 11, 2017)		
Assessment Types	Daily Assessments	Total Assessments
On-Site DW Assessments	43	391
On-Site WW Assessments	26	297
Phone DW Assessments	20	5211
Phone WW Assessments	0	3150

Drinking Water: **No update since 9/9/17.** Both EPA and the TCEQ are contacting remaining systems to gather updated information of their status. Assistance teams are in the field working directly with system operators to expedite getting systems back to operational status.

	Number of Drinking Water Systems	Population
Fully Operational	1,924	NA
Boil Water Notices	161	NA
Shutdown	52	NA
Awaiting update	101	NA

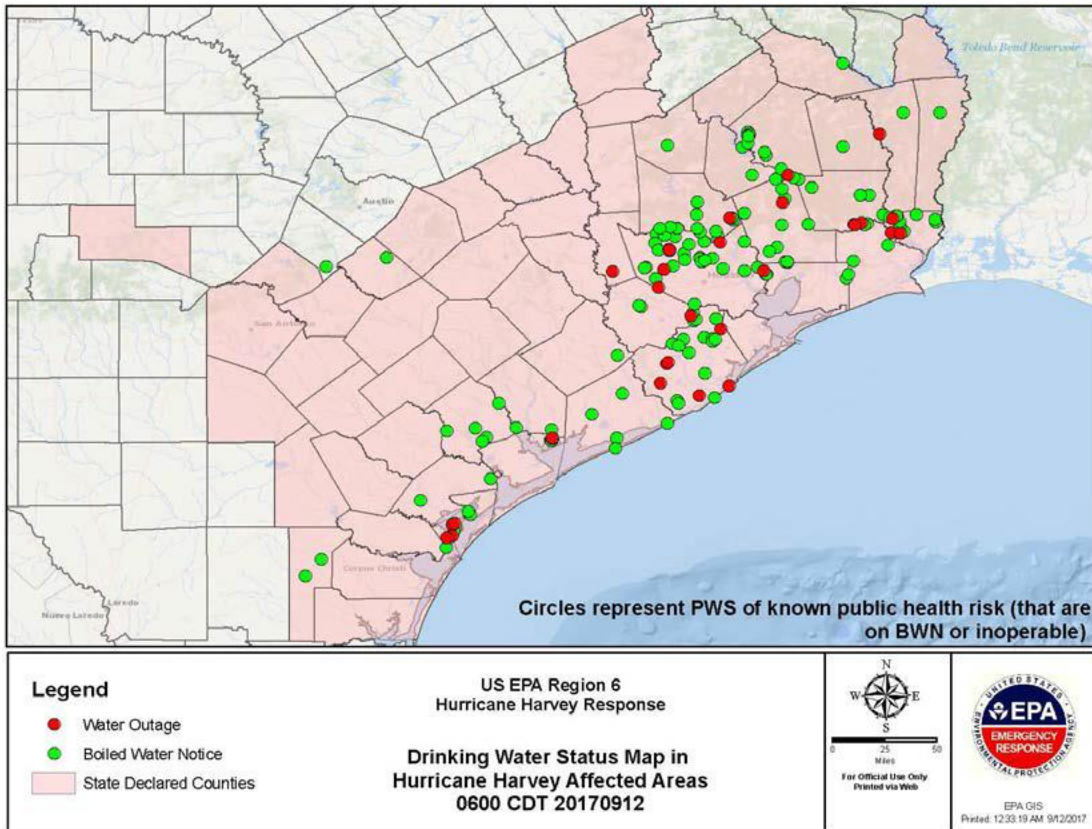


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Wastewater and Sewage: **No update since 9/9/17.**

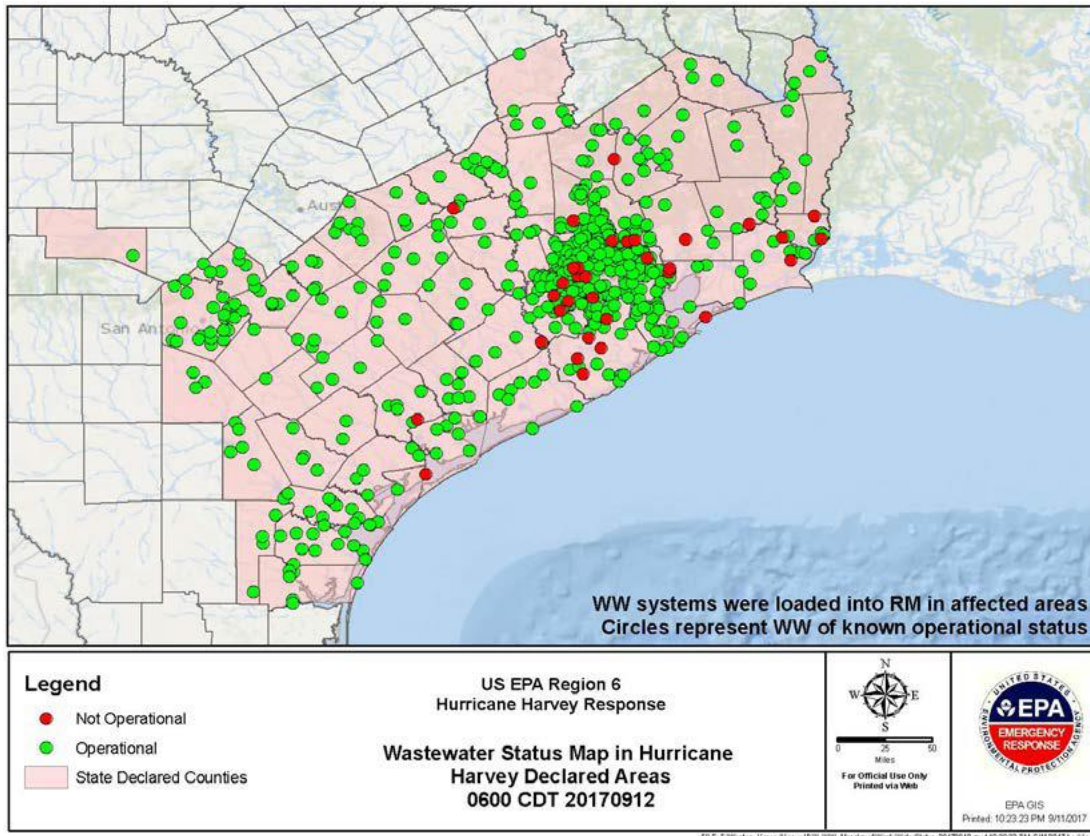
	Number of Wastewater Treatment Plants
Fully Operational	1,219
Inoperable	40
Other/unknown	35

Below are two maps that show the status of drinking water and wastewater facilities in the affected areas.





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Hurricane Irma Update

Background:

Hurricane Irma has been downgraded to a Tropical Storm with significant wind and rain. The storm center is 10 miles East of Albany, Georgia with sustained winds near 60 miles per hour (mph). The storm is moving north-northwest at 17 mph. The storm is anticipated to continue on its current track over southwest Georgia and through central and northwest Alabama as a tropical depression. Portions of Florida, Georgia and Alabama are expected to receive 4 to 6-inches of rain over the next 48-hours. Some isolated locations may receive greater than 6-inches of rain. A number of tornado touchdowns have been confirmed in the impacted areas.

Local/State Activities:

Puerto Rico and U.S. Virgin Islands

The PR Emergency Operations Center and USVI Territorial Emergency Management Agency are at Full Activation. The respective Governors have declared states of emergency. The PR National Guard and USVI National Guard have been activated.

Florida

Florida is currently operating at their highest level of activation - Level 1, with the State Emergency Operations Center (SEOC) staffed by Division of Emergency Management personnel and all Emergency Support Functions. Florida has issued a state of emergency in all 67 counties within the state. The Governor has issued a mandatory evacuation that covers Miami-Dade County, Broward County east of US-1, Palm Beach County, low-lying parts of Brevard County, coastal and low-lying areas of Jacksonville and Duval County, and Monroe County (Florida Keys). The Florida SEOC is sending a forward team near Jacksonville Florida (Camp Blending) to prepare a Continuing Operations (COOP) location in the event the Florida EOC needs to be evacuated due to the storm's anticipated path.

Georgia

The Georgia SEOC is currently operating at a Level 1 (full activation and fully staffed) activation. On September 10, 2017, the Governor extended a State of Emergency for the remaining 65 counties and the State of Emergency now covers all 159 counties. The Governor also issued a mandatory evacuation order starting September 9, 2017, for all areas east of I-95 and other parts of the Georgia coast. The USCG closed ports in Savannah, Georgia around noon on September 9, 2017.

South Carolina



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The South Carolina SEOC is currently operating at Level 1 (full operation) activation. On September 7, 2017, an emergency declaration issued by FEMA authorized emergency protective measures (Category B), including direct federal assistance, under the Public Assistance program at 75 percent federal funding. This includes all 46 South Carolina counties and the Catawba Indian Nation.

North Carolina

The North Carolina SEOC is currently operating at Level 4 activation. They are monitoring Irma's path and EPA is maintaining communication with the State to determine if EPA assistance is needed. EPA will develop data as the storm system moves closer to North Carolina.

Alabama

The Alabama Emergency Management Agency (EMA) is currently operating the SEOC at Level 1 (full operation) activation. Four Operations Centers have also been activated along the state's eastern border. Five EMA Divisions along the eastern and southeastern border of the state are on stand-by to begin operations, as needed.

Mississippi

The Mississippi SEOC is currently operating at Level 4 activation.

Tennessee

The Tennessee SEOC was activated to State of Emergency on September 11 as Irma approaches Tennessee. The SEOC will remain activated with 24-hour operations.

Region 4 Federally Recognized Tribes in Potential Storm Path

Region 4 continues to coordinate with the Bureau of Indian Affairs. Tribes of concern include Seminole Tribe of Florida, Miccosukee Tribe of Indians of Florida, Catawba Indian Nation (South Carolina), Eastern Band of Cherokee Indians (North Carolina) and Poarch band of Creek Indians (Alabama).

Federal Activities:

The FEMA National Response Coordination Center (NRCC) remains at Level I (24/7 operations, Full ESFs) in response to Hurricanes Harvey and Irma. The FEMA Region II Regional Response Coordination Center (RRCC) is at Full Activation. FEMA RRCC currently has a Mission Assignment for Federal Operations Support (FOS) for \$35,000 to staff the FEMA RRCC and the Florida State EOC.



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EPA Activities: Region 2:

Region 2 currently has 6 FEMA Mission Assignments (MA) for pre-deployment planning, implementation, and deployment of personnel for damage assessments on St. Thomas, St. Croix and St. John in the U.S. Virgin Islands, and Puerto Rico, including the islands of Vieques and Culebra.

EPA Activities: Region 4:

The EPA Region 4 Water Protection Division (WPD) received funding totaling \$75,000 under an ESF-3 Mission Assignment (MA) sub-task to support the U.S. Army Corps of Engineers (USACE) drinking water and wastewater facility assessments. Three technical experts have been identified to support USACE ESF-3 desk and teams will mobilize to Tallahassee, Florida today for a duration of 14 days.

The EPA continued to coordinate with the FDEP and the USACE relative to water and drinking water issues. Additionally, the USACE has indicated they may request Region 4 assistance with sampling activities associated with bringing the Water/Drinking Water facilities back on line. A Water Team will join USACE at the Florida SEOC in Tallahassee, Florida today to support preliminary water and wastewater system assessments.

Drinking Water / Wastewater Assessments:

Region 2:

Puerto Rico Drinking Water Status: As of 8 AM on 9/12/17, 3.58% of the population is without drinking water services. This does not include the non-PRASA systems which account for 4% of the PR population. PR remains under a boil water notice, and PR is confirming the scope. PRDOH is back to functionality and is going to start the coordination of inspections to check operational status of the drinking water systems. CEPD/CWD Water Support Group in the REOC is coordinating with PRDOH, FEMA, and the USACE in order to avoid duplication of effort.

Non-PRASA Systems

<u>System ID</u>	<u>Name</u>	<u>Pop. Served</u>	<u>Status</u>
PR0666056	La Cuchilla	400	No power, Need generator
PR0523105	Acueducto Dona Elena	1016	Needs to be assessed
PR0604046	Mulitas Centro	1000	Needs to be assessed
PR0613046	Turabo Arriba	1200	Needs to be assessed
PR0613366	Acueducto Sector La Sierra	2100	Needs to be assessed
PR0677016	Acueducto Rural Tejas	2460	Needs to be assessed
PR0677146	Calabazas Arriba	1800	Needs to be assessed

Note: PRASA continues to update their drinking water information 3 times a day.



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PRASA: All PRASA waste water treatment plants are in service. However, 15 of the nearly 800 sanitary pump stations are overflowing sewage due to problems caused by the hurricane. CEPD is coordinating visits to the pump stations, the Dorado WWTP, and the Culebra WWTP as soon as conditions allow.

PREPA: 75% of population with power.

PREPA: All PREPA waste water treatment plants are in service.

Non-PRASA Drinking Water Status: Highlighted systems need assistance. Systems that do not answer the phone will be visited by CEPD starting Wednesday. Information has been shared with PRDHOH and our staff located in the PREOC.

PWS ID No.	System Name	Population	Source	Region	Comments	Status as of
PR0116041	Sistema de Agua Dual Barraza	800	GW	Metro	Phone number not in operation (9/8) (9/11) No response	9/11/2017
PR0132021	Lomas Verdes (Watch Tower)	130	GW	Metro	Wrong phone number	9/11/2017
PR132071	El Día	1100	GW	Metro	Mr. Bedoya does not work in the PWS anymore. Left message on Mayra Rivera's voice mail.	9/11/2017
PR0207002	Campamento Penal Sabana Hoyos	400	GW	Norte	Wrong number Busy Signal	9/11/2017
PR0207042	Arrozal- Los Muertos	350	GW	Norte	No answer	9/11/2017
PR0207052	Observatorio de Arecibo	100	GW	Norte	Mr. Wilson reported a functional system.	9/11/2017
PR0207062	MSD International GmbHPR Branch	342	GW	Norte	Number not in service	9/11/2017
PR0209012	Pfizer Pharmaceuticals	1400	GW	Norte	Operator not in service. Extension provided is incorrect.	9/11/2017
PR0209032	Abbott Pharmaceuticals PR LTD	1997	GW	Norte	Mr. Juan E. Crespo (Utilities Coach) reported a functional system.	9/11/2017
PR0209092	MSD International GMBH	710	GW	Norte	Mr. Juan E. Crespo (Utilities Coach) reported a functional system.	9/11/2017
PR0209122	Abbott	710	GW	Norte	Mr. Juan E. Crespo (Utilities Coach) reported a	9/11/2017



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PWS ID No.	System Name	Population	Source	Region	Comments	Status as of
	Pharmaceuticals PR LTD				functional system.	
PR0220042	Pozo Azul Corp.	305	GW	Norte	Not in Service	9/11/2017
PR0242012	Lucas Lugo	40	GW	Norte	Busy Signal	9/11/2017
PR0242052	Asoc. Pro Bienestar Magueyes	140	GW	Norte	Busy Signal	9/11/2017
PR0242062	Vega Acevedo	396	GW	Norte	Busy Signal Busy Signal	9/11/2017
PR0242122	Com. Las Cuarenta	212	GW	Norte	Busy Signal	9/11/2017
PR0247022	Patheon Puerto Rico	300	GW	Norte	Paola Feliú (Utilities Supervisor) reported that they have been connected to PRASA since 1 month ago. According to Paola, a failure in the electricity produced a damage to the Non PRASA pump.	9/11/2017
PR0247032	Warner Chilcott PR LLC	300	GW	Norte	Left message	9/11/2017
PR0247042	Caribe Agrichemicals	380	GW	Norte	Busy signal	9/11/2017
PR0247092	Monasterio Madre De Dios	32	GW	Norte	NO Electricity. System has a generator in place, but there are having problems with the generator. Repairs may be done on Monday.	9/8/2017
PR0272032	Finca William Lugo	60	GW	Norte	Temporary Disconnected Temporary Disconnected	9/11/2017
PR0272282	Finca Carbonell	240	GW	Norte	No phone number provided.	9/11/2017
PR0274012	Pfizer Pharmaceuticals Limited	1500	GW	Norte	Left a message to Jose Aleman & Alexandra Perez. Everything worked appropriately during the emergency with a generator. They received Power yesterday.	9/11/2017
PR0274022	Euro Caribe Packing Company (Mato Santos)	275	GW	Norte	Left message with receptionist, Magda.	9/11/2017
PR0302013	Comunidad Gabino Negrón	740	GW	Oeste	Busy Signal	9/11/2017



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PWS ID No.	System Name	Population	Source	Region	Comments	Status as of
					Busy Signal	
PR0302023	Jaguey Chiquito	856	GW	Oeste	Contacted Luis Suarez. No electricity as of 9/9/2017. System has a generator that is operating intermittently. Mr Suarez requested EPA to contact him again this afternoon as we had some communication issues. CEPD spoke with Mr. Carrero, still no electricity. Working the system with a small generator. Due to what the generator can do they provide water to part of the community one day, and the next to the rest.	9/11/2017
PR0302033	Quebrada Larga	488	GW	Oeste	Wrong phone number Busy Signal – left message	9/11/2017
PR0302043	La Ceiba	400	GW	Oeste	No response Left message	9/11/2017
PR0302053	Com. Aislada en Desarrollo	440	GW	Oeste	Busy Signal Busy Signal	9/11/2017
PR0302063	Com. Cerro Gordo Sec. El Parque	304	GW	Oeste	Busy Signal	9/11/2017
PR0302073	Escuela Atalaya	270	GW	Oeste	No response	9/11/2017
PR0302083	Proyecto Aguas	412	GW	Oeste	Busy Signal	9/11/2017
PR0303013	Jardin del Atlantico	165	GW	Oeste	Power and water services restored.	9/11/2017
PR0303023	Acued. Correccional Guerrero	1100	GW	Oeste	Busy Signal	9/11/2017
PR0306023	Corcobada	360	GW	Oeste	Phone number not in service	9/11/2017
PR0306053	Acueducto Rural Bo. Hatillo Anasco	300	GW	Oeste	Not in Service Not in Service Busy Signal	9/11/2017
PR0306083	Humatas Deep Water	170	GW	Oeste	Power and water services restored on 9/8/2017.	9/9/2017
PR0306093	Acued. Rural Daguey Ajies	840	GW	Oeste	Power restored on 9/8/2017. Community utilized water by gravity from their storage	9/9/2017



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PWS ID No.	System Name	Population	Source	Region	Comments	Status as of
	Arriba				tank.	
PR0351023	Sonador II	800	GW	Oeste	Power restored 09/09/2017. System utilized a generator.	9/9/2017
PR0364083	Hospital de la Concepcion	900	GW	Oeste	System with generator. No power or water issues.	9/9/2017
PR0367013	Acueducto Rural Guacio	189	GW	Oeste	Power and water services restored.	9/11/2017
PR0367053	Acueducto Rural Guadalupe Mart	81	GW	Oeste	No response	9/11/2017
PR0401014	Las Cruces	130	GW	Sur	Wrong phone number	9/11/2017
PR0401024	Guilarte Helechaes	219	GW	Sur	Busy Signal No Response No Response	9/11/2017
PR0401034	Pellejas Adjuntas	260	GW	Sur	Talked to Ms. Elena Oquendo. Community with no power and no water. Utilizing rain water for basic needs.	9/11/2017
PR0401064	Comunidad Palomo	120	GW	Sur	Busy Signal	9/11/2017
PR0401074	Sector Los Hernandez Adjuntas	240	GW	Sur	Talked to Mrs. Rivera 787-317-5281. Community has no water, no power. Need generator. No response on 9/11.	9/09/2017 9/11/2017
PR0401144	Limani	150	GW	Sur	787-829-0933. Community has no power, but has a generator. No response.	9/9/2017 9/11/2017
PR0401234	Garzas Juncos	460	GW	Sur	787-218-4702. Community has no power, but has a generator. No response.	9/9/2017 9/11/2017
PR0401284	Juan Gonzalez	500	GW	Sur	Busy Signal Busy Signal	9/9/2017 9/11/2017



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PWS ID No.	System Name	Population	Source	Region	Comments	Status as of
PR0422014	Asociacion Residente San Diego Coamo	368	GW	Sur	No response Power and water services restored.	9/9/2017 9/11/2017
PR0422084	Coamo Arriba	340	GW	Sur	No response No response	9/9/2017 9/11/2017
PR0422094	Comunidad Monteria	360	GW	Sur	No response No response	9/9/2017 9/11/2017
PR0455054	Fca. Geraldo Pagan	680	GW	Sur	No response No response	9/9/2017 9/11/2017
PR0455114	Comunidad Sabana	720	GW	Sur	Temporary Disconnected Temporary Disconnected	9/9/2017 9/11/2017
PR0455134	Pellejas Galleras	25	GW	Sur	Busy Signal Apparent disconnection	9/9/2017 9/11/2017
PR0455164	Pellejas II	500	GW	Sur	No power, no water service. Need generator. Not in service. No response.	9/9/2017 9/11/2017 9/11/2017
PR0455214	El Perico II	88	GW	Sur	No response No response.	9/9/2017 9/11/2017
PR0455234	Damian Arriba	320	GW		787-867-1878 Mrs. Rivera. No power, no water services. System has a generator, but use it intermittently as they don't have problems obtaining gas. No water and power services.	9/9/2017 9/11/2017
PR0666056	La Cuchilla	400	GW		New President is Efrain De Jesus Rivas. Community has no water, no electricity. EPA provided information on location of PRASA oasis. No response.	 9/11/2017



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USVI Drinking Water Status: No change from yesterday. DPNR reports that all St. Croix drinking water and waste water facilities are fully functional. St. Croix is currently under a Drinking Water advisory due to the heavy rains. St. Croix has a fully functional testing lab. DPNR reports (based on limited information) that St. Thomas and St. John are under a boil water advisory. Some of the drinking water storage tanks in St. Thomas survived the storm. VIWAPA expects to commence gravity feeding drinking water today on St. Thomas. DPNR is unable to get staff to St. Thomas due to the storm damage. St. Thomas laboratory is currently offline due to lack of power and needs a generator. There is no information available on the drinking water and wastewater situation in St. John.

USVI Wastewater: The 8 municipal wastewater treatment plants are in service. DPNR is contacting facilities and will provide updates. No significant damage or operational issues have been reported regarding major facilities on St. Croix. Still collecting information regarding St. Thomas and St. John. No information on sanitary pump stations. CEPD will request the OSCs deployed in St. Thomas to assess the wastewater treatment plants and pump stations. CEPD has a call scheduled with DPNR personal this afternoon to strategize assessments and get further updates.

Region 4:

USEPA Region 4 SEDS's Mobile Laboratory is prepared to conduct the following analyses for drinking water if assistance is needed by Region 4 States. Analysis includes total coliform, E. coli, fecal coliform, and enterococcus. Contact has been made with the Seminole and Miccosukee Tribes in South Florida and EPA drinking water support and response capabilities were discussed.

Georgia: Initial reports from Georgia water and wastewater systems indicate that six community-water systems are without power or on back-up generators. Three Publically Owned Treatment Works (POTW) are reported as being without power or partially operating on back-up generators. Requests for back-up power generators for water and wastewater treatment facilities are coming to the State of Georgia ESF-3 desk.

The Miccosukee, of Florida, continues to remain without power. They are actively conducting assessments of critical infrastructure; no issues are reported. The tribe has received water pumps from the USACE and Southwest Florida Water Management District.

The Seminole Tribe in Florida has lost power at Immokalee, Big Cypress, Brighton, and Hollywood Reservations. A water main break occurred at Hollywood; a boil notice is in effect and water is being distributed.

Florida: The table below provides a summary of priority facilities in Florida:

Priority Facility Sites in Florida				
Drinking Water	WWTP	NPL	RMP	FRP
1,642	387	92	263	121

Notes: **WWTP** – Wastewater Treatment Plant | **NPL** – National Priority List sites | **RMP** – Risk Management Plan facilities | **FRP** – Facility Response Plan facilities



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The WPD compiled an inventory of community drinking water systems (CWS) and publicly owned wastewater treatment plants (POTW) that may be used during post storm damage assessment (see Tables 1 and 2 below).

Table 1
Total Number of Community Drinking Water Systems (CWS) and
Total Population Served within Region 4 States and Tribal Lands

State or Tribe	Number of CWS	Population Served
Alabama	514	5,607,481
Florida	1631	19,917,363
Georgia	1749	8,917,820
South Carolina	583	3,795,571
North Carolina	1999	8,250,007
Tennessee	472	6,921,665
Catawba (SC)	2	715
Cherokee (NC)	4	10,099
Miccosukee (FL)	1	500
Poarch (AL)	1	750
Seminole (FL)	4	7,610



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Table 2 Total Number of Publically Owned Wastewater Treatment Plants (POTWs)		
State or Tribe	POTW	Other WWTP of Concern
Alabama	374	To be determined.
Florida	2,410*	To be determined.
Georgia	572	To be determined.
South Carolina	172	To be determined.
North Carolina	396	To be determined.
Tennessee	372	To be determined.
Catawba (SC)	0	
Cherokee (NC)	1	
Miccosukee (FL)	0	
Poarch (AL)**	1	
Seminole (FL)	4	

* Total number of facilities in Florida's StormTracker application, which includes POTWs, non-permitted WWTPs, and industrial facilities of concern. The number will be refined as information becomes available.

** Lagoon system is on tribal lands. Discharge is to State waters (State issued permit)

WPD continues building the necessary GIS data layers for use in mapping and communicating the status of drinking water and wastewater systems in FL, GA, AL, SC, NC, and TN.

WPD communicated with Alabama Department of Environmental Management (ADEM) drinking water program to verify that ADEM has a system established for initial assessments of drinking water systems. Arrangements have been made for ADEM to send their drinking water assessment/status tracking spreadsheet to EPA Region 4. A follow-up call with ADEM was scheduled for Monday, September 11, 2017.